Sept. 15, 1970 S. P. LAPERTOSA 3,528,716

POSTING TRAY CABINET FOR DATA PROCESSING RECORD CARDS AND THE LIKE

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Fig. 1.

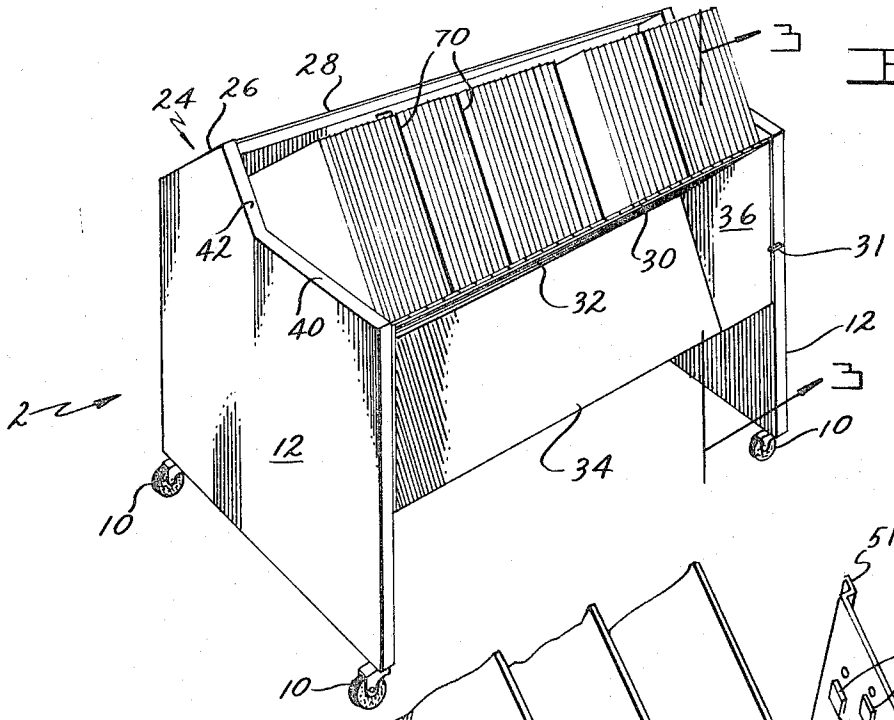
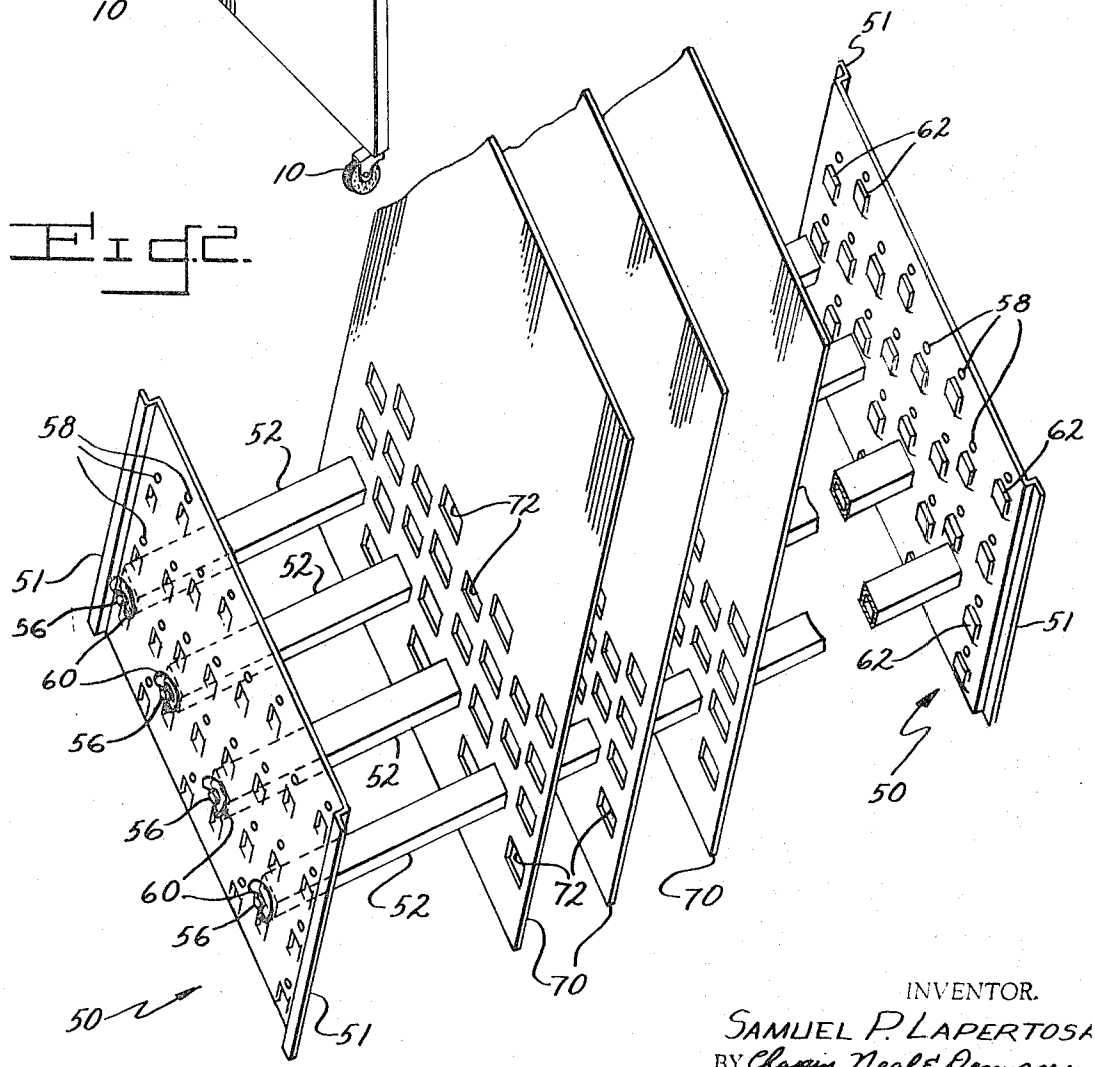



Fig. 2.




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Fig. 3.

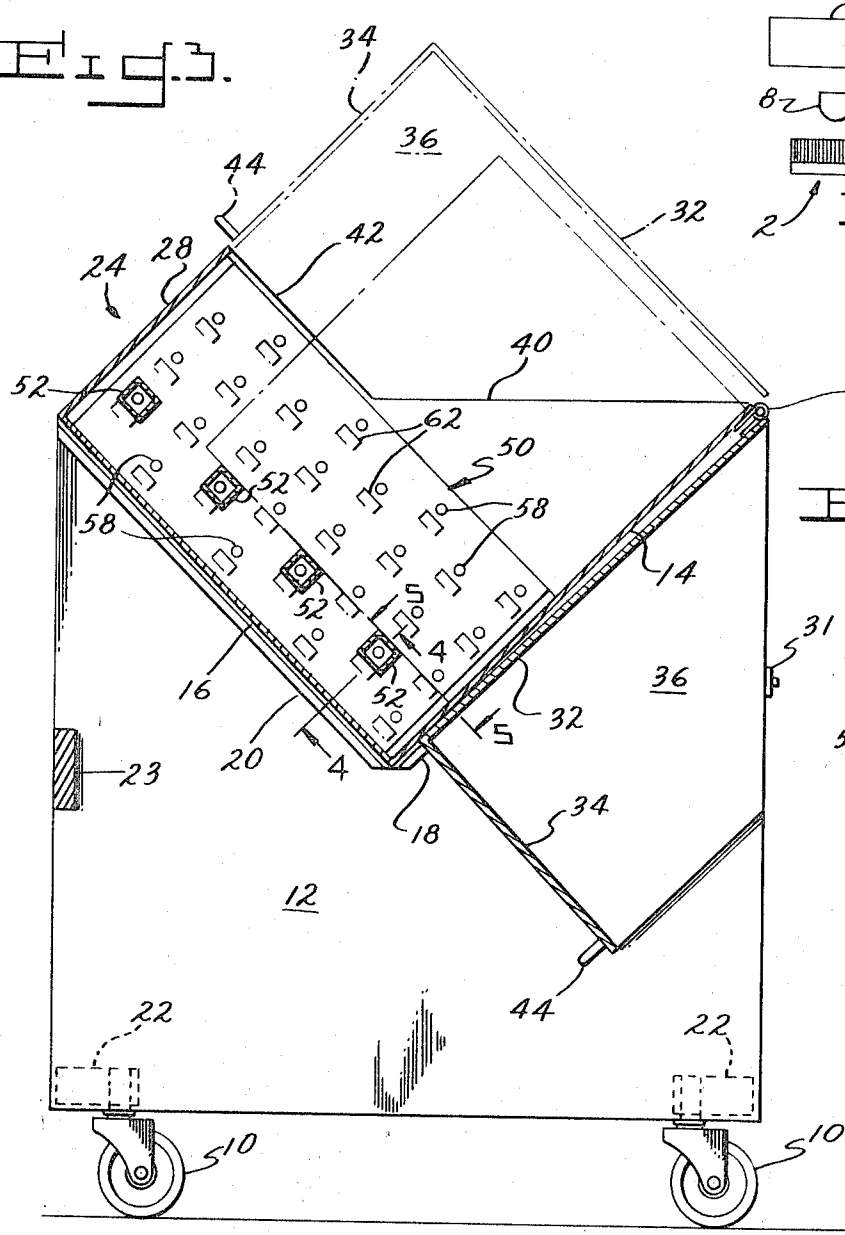



Fig. 6.

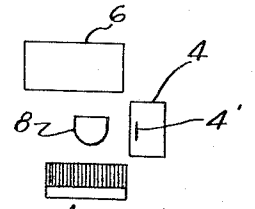



Fig. 4.

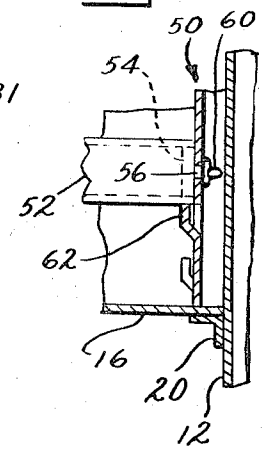
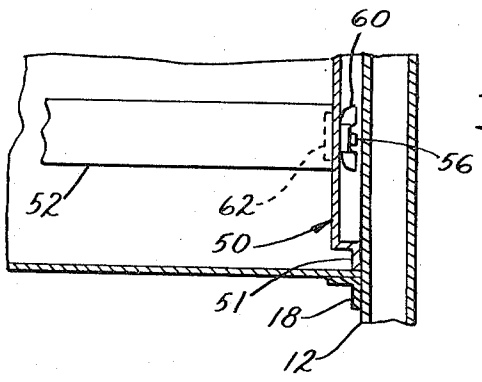



Fig. 5.




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3,528,716

# POSTING TRAY CABINET FOR DATA PROCESSING RECORD CARDS AND THE LIKE

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U.S. Cl. 312—183 8 Claims

## ABSTRACT OF THE DISCLOSURE

A cabinet tray construction for storing and posting data processing machine ledger cards and the like of various dimensions, in which a forwardly and upwardly angled tray bin faces the front side of the cabinet and a tray floor unit is removably seated therein on which the cards are to be stacked, said floor unit being removable and having means for adjustably fixing the elevation of the tray floor surface to accommodate a particular machine card size for the desired elevation of the upper edges of such cards relative to the top of the bin and convenience in handling the cards for posting and similar operations.

This invention relates to posting tray structures for business machine card forms and in particular to a cabinet tray construction capable of adjustment to provide for the convenient housing of a wide variety of different sizes of machine ledger cards and other card record forms commonly used in present day data processing account and computer systems of different manufacturers.

## DESCRIPTION OF THE PRIOR ART

At the present time the development of a wide variety of computer systems and realted data processing equipment, as well as other types of business record keeping machines by different manufacturers, has resulted in record card processing machines of many designs, each such machine serving to process card forms having dimensions specifically related to each particular system. Thus record card forms as, for example, ledger account cards adapted for use in the different accounting systems, are of many sizes and will range from smaller size cards to form cards as large as 14 by 19 inches.

Equipment generally used to file such forms and to have them available for reference purposes, as machine posting operations, has been for the greater part in the form of portable filing containers or trays of dimensions to contain the particular size form. Such containers are supported in use on a table surface or they may be incorporated with tray stand equipment which is adapted to accommodate several sizes of trays. Alternatively custom made equipment for a particular data processing installation and accounting system may be specially designed. In view of the fact that individual customer requirements vary widely and custom made equipment is relatively expensive, the customer is often presented with a choice of using the ordinarily available container equipment which may be ill adapted for storing and retrieving his particular record forms, or of undergoing the expense of designing and having individualized container equipment manufactured to order. Insofar as is known no equipment of a unitary nature is available whereby adjustments can be made to a single structure and any one of a wide variety of card form sizes contained therein for meeting the card filing needs of various data processing machine systems.

Accordingly, the principal object of the invention is to provide a simplified cabinet tray apparatus which may be adjusted to accommodate any one of many machine



record form sizes and thereby provide a standard type of construction to lower the cost of this type of equipment for general use.

Another object is to provide a cabinet tray structure which is adapted to hold the record cards in a condition whereby a machine operator may more readily retrieve the cards for insertion in the machinery for tabulating purposes and, furthermore, may more easily replace cards in proper position in the storage tray.

## SUMMARY OF THE INVENTION

In the construction of the cabinet tray of the invention a wheeled cabinet is provided with end walls supporting an L-shaped form card tray bin or tub angularly facing the front side of the cabinet. The tray bin is of a size to accommodate card forms of a maximum size or less. The adjustable tray floor unit with divider plates is provided for insertion in the angled bin. This unit has end plates and connecting floor members on which the lower edges of the machine card forms rest in the tray bin. The floor members are releasably mounted between the end plates and may be fixed, according to the vertical dimension of the card forms to be contained in the tray, at a selected elevation and the divider plates are likewise positionally adjusted relative to the floor members. Accordingly, when the unit is dropped into the bin the upper edges of cards stacked in the tray lie adjacent the upper front edge of the tray for convenience in handling.

Further objects, advantages, and features of the invention will be apparent from the following description of an embodiment thereof as shown by the accompanying drawings.

## DRAWINGS

FIG. 1 is a perspective view of a new posting tray cabinet embodying the invention;

FIG. 2 is a perspective view of the separable tray floor unit removed from the cabinet assembly as shown in FIG. 1;

FIG. 3 is a vertical sectional view through the cabinet as on line 3—3 of FIG. 1;

FIG. 4 is a detailed sectional view taken on line 4—4 of FIG. 3;

FIG. 5 is a detailed sectional view taken on line 5—5 of FIG. 3; and

FIG. 6 is a diagrammatic view indicating an exemplary environment in which the posting cabinet of the present invention may be advantageously used.

Referring first to FIG. 6 a typical environment in which the tray cabinet of the present invention may be used will be briefly described. The tray cabinet is at 2. A card posting machine in which individual ledger cards are inserted for tabulating purposes is located at 4. A tabulating machine which prints out the pertinent data on a continuous form sheet is located at 6. The operator is seated as on a conventional swivel chair 8 in position to operate the keyboard of the machine at 6. The data processing machines 4 and 6 are fixed in locations as will be appreciated and the operations thereof are well known to those familiar to this art. The tray cabinet 2 containing active file cards has been wheeled into the relative location shown for conveniently processing the appropriate card forms of the tray.

As will also be understood by those familiar with data processing machinery, the ledger cards such as those stored in cabinet 2 may bear a magnetic tape identification strip on the backside. When a card is inserted in a slot at 4' of the posting machine 4, the tape automatically serves to print out identification and other pertinent data on the continuous form print-out sheet of the machine at 6. On completion of the automatic print-out, the operator then manipulates the keyboard of machine 6

in order to supply the additional data for posting on the card form and adding to the tabulation of the print-out sheet of machine **6**. When this operation is completed, the ledger card is removed from machine **4** and replaced in the tray of cabinet **2**. The same process is then repeated with additional ledger cards.

It will be seen that with this type of data processing installation as represented by the machines **4** and **6** located at right angles to each other, an operator seated at **8** can make a 90° turn from a position facing machine **6** and will then be able to scan the cards stacked in the cabinet tray while facing the posting machine **4**. The front edge of the cabinet tray is preferably approximately at the level of the operator's elbow. Cabinet **2** is, furthermore, supported on caster wheels. It may be easily moved back and forth and thus shifted to a position for directly handling any particular section along the front side thereof for easily finding and extracting the ledger card desired. Accordingly, an operator may pick out a card with the left hand and with the sweep of the arm place it into slot **4'**, thereafter turning back to operate the keyboard of machine **6** as above outlined. A minimum amount of motion and effort is thus required in transferring the cards between the cabinet tray and machine **4**.

It will be understood that the positional relationship of the machinery in other data processing systems may not be as described in connection with FIG. 6 and that the operational sequence may also vary. The environment illustrated by FIG. 6 is intended for exemplary purposes only. The versatility and capability of the tray cabinet **2** will, however, be readily appreciated particularly for purposes of machine card posting operations, from the following detailed description of the construction.

Referring to FIG. 1 the tray cabinet **2** is wheel supported as by caster wheels at **10**. Supporting framework of cabinet **2** includes end frame members as end walls at **12** and connected between walls **12** are front and rear tray frame members **14** and **16**, respectively (see FIG. 3). Tray members **14** and **16** are preferably wall structures and are disposed at right angles to each other to form with upper end wall sections an L-shaped trough or bin. Front wall **14** is angularly tilted inwardly, preferably at a 45° angle, from the upper front edge of the cabinet. The intersection of the front and rear tray walls thus extends centrally between end walls **12**. The tray walls may be fixed between end walls **12** in any suitable fashion. As in FIG. 3 a pair of angle iron brackets **18** and **20** are fastened as by welding to the inner surface of walls **12** and to the tray walls **14** and **16** along the marginal end edge portions thereof (see also FIGS. 4 and 5).

End walls **12** may be of any suitable construction of a conventional nature with structural reinforcing members (not shown), the casters **10** being mounted in supporting blocks shown at **22** (FIG. 3). A rear brace as at **23** may also be provided, if desired, between the rear edges of end walls **12** for further rigidly connecting the end walls.

As noted by FIGS. 1 and 3 the end walls are provided with extensions **24** at the upper rear portions thereof. These extensions are triangularly formed, the rear edges **26** being upwardly and forwardly angled and in parallel relation with wall **14**. A back wall **28** extends between edges **26** and is thus parallel to the lower portion of front tray wall **14**. The walls **12**, **14**, **16**, and **28** thus form a tray bin or well angularly facing the front of the cabinet with the front wall **14** extending to the front edge thereof.

Hinged at **30** along the upper edge of the front wall **14** is a hood or cover member for the tray well. The cover has a top wall **32**, a right-angled rear wall at **34**, and end walls **36**. The lower edges of end walls **36** adjacent the rear wall **34** are parallel to the top wall **32** for engaging the angled front edges **42** of extensions **24** in a closed condition. From these parallel edge portions the lower edges of walls **36** are angularly directed toward the hinge **30** for engaging the upper horizontal front edges **40** of walls **12** in the closed condition. A handle **44** for the hood is provided at the edge of rear wall **34**.

As will be noted from FIGS. 1 and 3, the cover may be swung on hinge **30** from its closed covering position to an open position in which the top wall **32** lies in flat planar relation against the underside of front tray wall **14**. In such position rear wall **34** and side walls **36** lie inwardly of the front edges of end walls **12**. As clearly indicated the open nested condition of the cover allows unimpeded access to ledger cards stacked in the angled tray. A catch may be mounted on the edge of wall **12** as at **31** (FIG. 1) for releasably holding this nested open condition.

In the tray well construction as thus far described an adjustable floor unit is slidably mounted. The floor unit best shown by FIG. 2 is preferably fitted with divider plates and is formed to permit the adjustment of the tray floor level relative to the upper front edge of the cabinet (i.e. the hinged top edge of front tray wall **14**). The unit includes end plates at **0** connected by a plurality of tray floor members as rods **52** removably fastened at their terminal ends to the plates. Rods **52** are preferably rectangular in cross section. Fixed in the openings at each end thereof (FIGS. 4, 5) are end plugs or pieces **54** secured thereto and carrying threaded stems **56** extending outwardly of the ends. Stems **56** extend through openings **58** of the end plates **50** and wing nuts **60** are threaded on the stems to rigidly fasten the rods and plates together. The rods **52** may be fixed in a plurality of positions relative to the plates **50** and are thus adjustable for any desired elevation consistent with the vertical dimensions of the ledger cards to be stacked in the tray for storage and posting purposes.

As shown each end plate **50** has a series of transversely aligned vertically spaced rows of openings **58**. In the embodiment shown the transverse rows of aligned openings **58** are staggered for conveniently providing a plurality of desired elevational positions in which the rods may be fixed. It will also be noted that the upper surfaces of the rods are conveniently brought into coplanar relation when setting up the assembly by supporting tongues **62** (see FIG. 4) struck from the metal of the plates **50**. These tongues engage the outer marginal undersurfaces of the rods when the rods are secured by the wing nuts. The upper surface of the rods are thus automatically supported in the same plane for an even floor surface for engaging the lower edges of the cards.

Also provided on the rods are a plurality of divider plates **70**. The lower portion of each plate has a series of transversely aligned rectangular openings **72** arranged for registration with the matched rows of openings **58** in the end plates **50**. The plate openings **72** are of a slightly greater dimension than the rod dimensions so that the dividers may be conveniently tilted on the rods at an appropriate angle. Thus the plates can be tilted in supporting the cards for the normal handling thereof in posting operations as will be readily appreciated. The weight of the card contents or weight of plates alone will bind the dividers against sliding movement when in tilted condition. It will also be seen that in the assembly of a tray floor unit as described any preferred number of plates may be mounted on the rods for the most convenient operational serviceability in a particular stack of card forms.

As will be appreciated from FIG. 3 the assembled tray floor unit of FIG. 2 may be bodily dropped to slide into the angled bin or well formed by tray walls **14** and **16** and end walls **12**. In the embodiment shown the side edges of plates **50** of the unit are provided with offset flanges at **51**. Flanges **51** provide a reduced bearing surface at each side for easily slipping the assembly into place or for removing it from the well. The flanges, furthermore, serve to provide clearance for the stem and wing nut fastenings with respect to the end wall surfaces.

It is to be noted that in providing the angularly tilted

tray well an operator of a data processing machine in which the card is to be used will most conveniently be seated as previously described with the stacked cards arranged at the operator's side. Thus the tilted cards are more readily visible and easily retrieved and without the need for reaching from end to end of the stack. Furthermore, the cards being positioned to rest as in a trough against the floor rods and front tray wall slipping and offsetting of individual cards is largely eliminated and the replacing of insertion of cards into place is assisted by the natural tendency of the card to fall into the desired position and registered with the other cards.

What is claimed is:

1. A posting tray cabinet for the storage and posting of business machine ledger cards and the like, comprising

a wheel supported cabinet having

end frame members,

front and rear tray frame members disposed at right angles to each other and connecting said end members;

the front tray member being angularly tilted inwardly from the upper front edge of said cabinet and forming in part a front side wall for a card holding tray with the intersection of the tray members extending centrally between said end frame members, and

an adjustable tray floor assembly removably fitted between said end frames, having

end plates, a bottom edge and front side edge thereof being seated adjacent opposite end frame members against the rear and front tray frame members, respectively,

tray floor members extending between said plates,

said plates and tray floor members having releasable interengaging portions and fastening means rigidly connecting the same,

the interengaging portions of said end plates being disposed in a series of matched sets of transversely aligned vertically spaced rows and the ends of said floor members being releasably fixed in corresponding rows of said plates and at a selected floor elevation relative to the upper front edge of said cabinet.

2. The structure of claim 1 in which

said tray floor members are in the form of rods and

mounted thereon for sliding movement lengthwise of the tray are a plurality of divider plates,

said divider plates having a series of transversely aligned openings in the lower portions thereof registrable with said matched rows of interengageable portions of said end plates and receiving said rods in the opening positioned in registration with said interengaged portions in which the rods are fastened.

3. The structure of claim 2 in which

said end frame members and front and rear tray frame members are formed as wall portions,

said end wall portions are provided with extensions having upwardly and forwardly angled rear edges parallel with said front tray wall portions,

a rear wall cover portion extends between said angled rear edges and forms with said end and tray wall portions a record card tray well angularly facing the front of said cabinet, and

at the upper edge of said front tray frame member



is hinged a hood swingable to and from a closed covering position relative to said well and an open position in nested relation between said side wall frame members and positioned against the inwardly angled outer surface of said front tray member.

4. The structure of claim 2 in which

said rod floor members are rectangular in cross section and said divider plate openings loosely receive said rods for binding the plates thereon against movement when tilted on the rods, and

fastener stems project from the ends of said rods and are received in openings of said end plates forming the interengageable portions thereof.

5. The structure of claim 4 in which

said end plates are provided with flanged side edge portions for slidably tracking said tray floor assembly in guiding the assembly into seated position on said tray members or removing the same therefrom.

6. The structure of claim 5 in which

a series of tongues are struck from the metal of said end plates below said openings thereof and the lower end edges of rods fastened in a row of openings are engaged by the tongues therebelow for aligning the upper surfaces of said assembled rods.

7. The structure of claim 6 in which

the vertically spaced adjacent rows of openings in said end plates and in said divider plates are staggered.

8. The structure of claim 7 in which

said end and said front and rear tray members are formed as walls,

the end walls along the upper rear edge sections thereof having triangular extensions with rear sides parallel to said front tray walls and a wall connecting said rear sides along the upper edge of said rear tray frame wall, thereby forming a tray well to receive said tray floor assembly, and

a cover for said tray well having

a top wall of dimensions similar to said rear tray wall hinged along the upper edge of said front tray wall,

a rear wall normal to the top wall and engaging the edge of said rear connecting wall of the tray well when the top wall is brought opposite the rear tray wall for a closed position, and

side walls formed to mate with the upper edges of said end walls including the front edges of the extensions thereof.

said cover being swingable into an open position with said cover top wall lying against the front tray wall and said rear and cover side walls lying inwardly of the front edges of said end walls.

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